

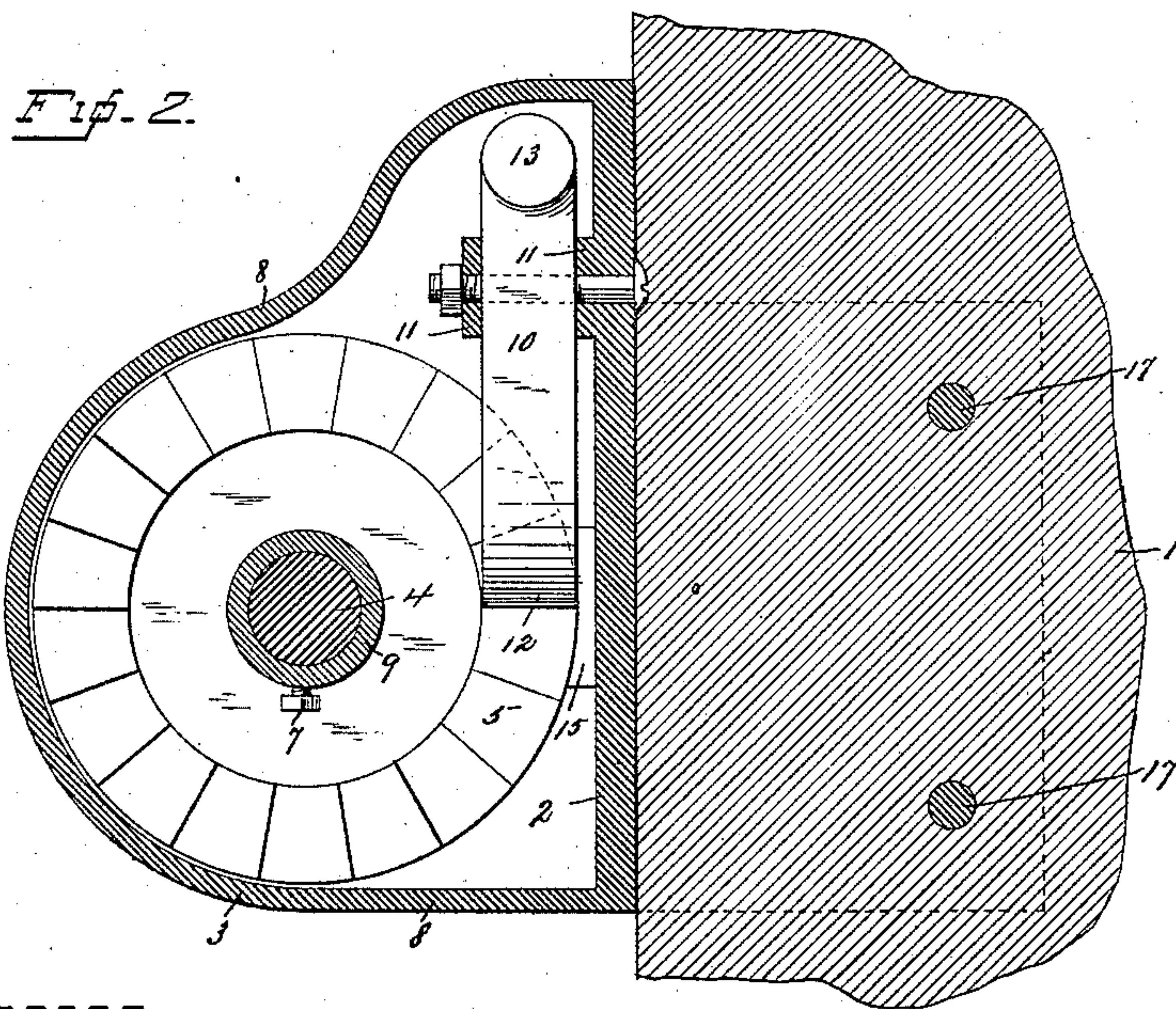
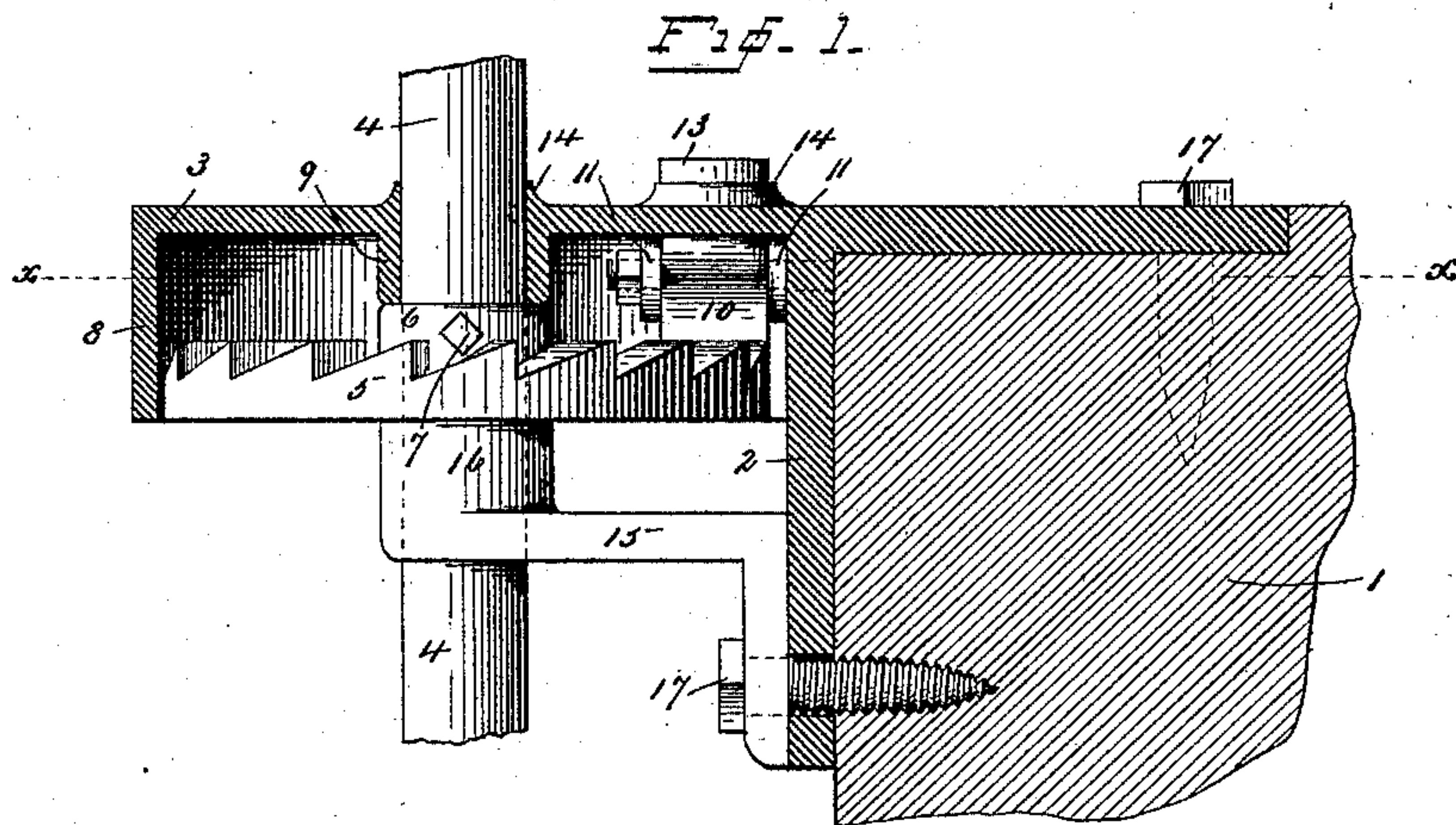
(No Model.)

L. A. STAHL & J. T. WOOSTER.

CAR BRAKE.

No. 365,708.

Patented June 28, 1887.



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UNITED STATES PATENT OFFICE.

LOUIS A. STAHL AND JOEL T. WOOSTER, OF LITCHFIELD, ILLINOIS.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 365,708, dated June 28, 1887.

Application filed March 12, 1887. Serial No. 270,630. (No model.)

To all whom it may concern:

Be it known that we, LOUIS A. STAHL and JOEL T. WOOSTER, citizens of the United States, residing at Litchfield, in the county of Montgomery and State of Illinois, have invented certain new and useful Improvements in Car-Brakes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention has for its object to produce a brake adapted for general use upon all classes of cars, but more especially adapted for coal or box cars.

The important features of our invention are the simplicity of its construction, but three castings being required, the avoiding of all cutting away of the wood-work, and the fact that the operative parts are entirely out of the way, and are wholly protected from snow and rain and from the collection of dust. In order to accomplish these results and insure that the device shall be economical in cost, strong, and practically impossible to get out of repair, we have devised the novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to indicate the several parts.

Figure 1 is a longitudinal section through the end sill of a car and through the casing, showing the operative parts of the device in elevation; and Fig. 2 is a horizontal section on the line $x x$ through the brake-staff and casing, showing the operative parts in plan, the outline of the top of the angle-plate being indicated by dotted lines.

1 denotes the end sill of a car, and 2 the angle-plate of the casing 3, which is secured thereto. 4 is a brake-staff, and 5 a crown-ratchet rigidly secured thereto. We preferably provide the ratchet with a central boss, 6, to give increased strength, and secure it to the brake-staff by an ordinary key engaging a groove in the staff, or a set-screw, 7, as shown. The teeth of the ratchet face upward, and are made straight upon one side and inclined upon the other. As shown in the drawings, the teeth of the ratchet radiate from the center, although this is of course not

an essential feature of our construction. We preferably construct and arrange the ratchet and dog as shown in Fig. 2, placing the dog parallel with the end sill of the car, the object being to avoid cutting away of the wood-work and to widen the contact-surfaces, as will be more fully explained.

The upper face of the angle-plate may be let into the end sill of the car flush with the surface, as shown, and extends forward therefrom, forming with flange 8 a casing which fully covers and protects both the ratchet and the dog.

The angle-plate and casing are cast in a single piece, which is secured in place by bolts or screws, as shown in the drawings. 8 is a circular flange which projects downward from the outer edge of this plate as far as the under side of the ratchet-wheel, so that the operative parts are fully protected from the weather and against the entrance of dust.

9 is a boss on the under side of the plate, through which the brake-staff passes, and which corresponds with boss 6 on the ratchet. The object of boss 9 is to give a broad bearing and firm support for the brake-staff.

10 is a holding-dog, which is pivoted between lugs 11, said lugs being preferably cast integral with and projecting from the under side of the casing. The inner end of the dog extends over the ratchet, and constitutes a pawl, 12, to engage therewith. The rear end of the dog is curved upward and passes through an aperture in the casing, the end or stump 13 projecting just sufficiently above the plate to adapt it to be pressed by the foot when it is desired to disengage the pawl from the ratchet. The inner end of the dog—that is, the pawl—is made very much heavier than the rear end, so that the device is made self-locking without the use of a spring.

14 denotes raised collars cast upon the casing around the openings for the brake-staff and dog, which act to prevent water from running down inside of the casing.

15 is a bracket secured in position below the casing, and provided with a bearing, 16, through which the brake-staff passes and by which it is supported.

17 denotes the screws by which the angle-plate and bracket are secured in place.

It is an important feature of our present construction that no recessing of the parts or cutting away of the end sill of the car is required, so that our improved brake may be quite as readily applied to cars already in use as to new ones.

We contemplate using the ordinary chain and brake-shoe, which we have not deemed it necessary to illustrate in the drawings.

10 The mode of operation is so simple as hardly to require explanation. As stated above, the forward end of the dog is considerably heavier than the inner end, so that the brake is necessarily self-locking. When the brake-staff 15 is turned forward—that is, toward the right—as in applying the brake in use, the end of the pawl passes freely over the teeth of the ratchet, dropping after it has passed each tooth, so that the instant the brakeman stops turning the 20 brake-staff the ratchet is automatically locked in the position it then occupies, no movement whatever being required on the part of the brakeman. To release the brake it is simply necessary for the brakeman to press upon 25 stump 13 with the foot, which raises the inner end of the dog—that is, the pawl—out of engagement with the ratchet, thus permitting the brake-staff to turn backward.

It will be observed in the drawings that the

inner end of the dog—that is, the pawl—is 30 made broad, and that the straight sides of the teeth are engaged by the entire width of the pawl. By constructing the teeth and pawl in this manner—that is, provided with wide contact-surfaces—we avoid the possibility of either 35 pawl or teeth being broken in use.

It will of course be understood that the minor details of construction may be widely varied without departing from the spirit of our invention. 40

We claim—

In a car-brake, an angle-plate for attachment to a car-sill, and a casing made integral therewith, in combination with a bracket beneath said casing, a brake-staff journaled in 45 said casing and said bracket, a crown-ratchet carried by the brake-staff, and a gravity-pawl engaging said ratchet, whose rear extends upward through the casing, as and for the purpose set forth. 50

In testimony whereof we affix our signatures in presence of two witnesses.

LOUIS A. STAHL.
JOEL T. WOOSTER.

Witnesses:

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